pattern, looking like lichen against a white background. The butterfly is normally on the wing in Scotland from late April until mid-June.

In the mid-nineteenth century, the Orange tip was found throughout most of Scotland and was considered to be widely distributed and rather common in the Clyde area. By the beginning of this century, however, the butterfly had declined considerably and had disappeared entirely from many areas. In 1980 it was confined to the Borders and the Grampian - Strathspey areas. Since the early 1980s it has returned and is re-colonising many of its old haunts.

In 1997 Butterfly Conservation organised a popular survey in Scotland using postcards featuring a colour photograph of a male Orange Tip on one side and space for recording on the other. The main aims of the survey were to promote an awareness of butterflies (and other insects) in gardens, to promote butterfly recording and to provide data about the rate of spread of the Orange Tip in Scotland.

The Orange Tip was on the wing exceptionally early (about three to four weeks earlier than normal). It was first seen on 28 March at Kinfauns, Perth (the earliest date on record for an Orange Tip in Scotland). The last reported sighting of an adult was on 26 June at Dumfries, making a flight period of 90 days.

New areas appear to have been colonised. The most notable records came from Scourie, Raasay, Skye, Bute and Arran in the west and several records from the Borders in the east, but there were also many other new records throughout the butterfly's range. See Figure 1, and Futter and Futter (1998).

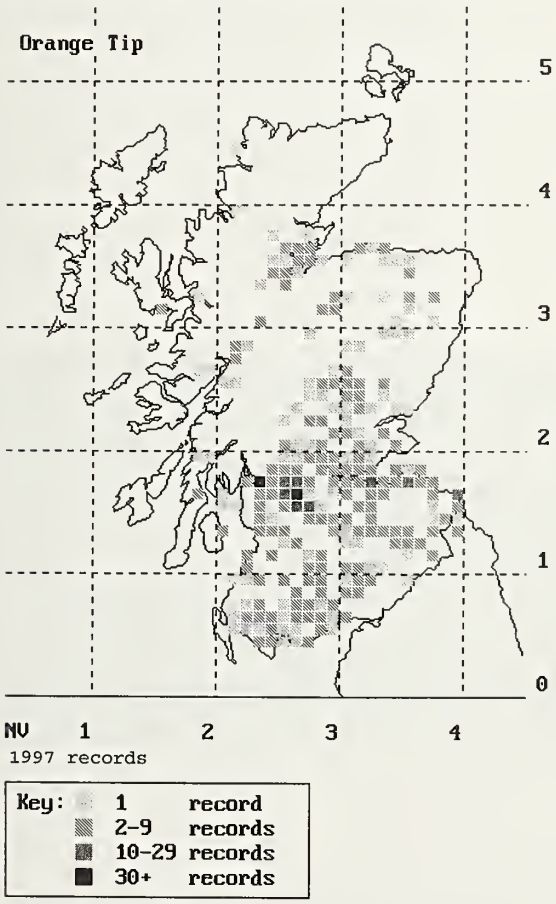

Figure 1. All records of Orange Tips in Scotland 1997.

The survey is being run again in 1998. All records of Orange Tips from anywhere in Scotland are needed to build up a complete picture of the butterfly's expansion. Please send any records to Richard Sutcliffe.

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The Crystal Goby as a host to Caligid Copepod larvae

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The former Forth River Purification Board undertook routine monitoring of benthic fish populations at various localities in the Forth Estuary and Firth of Forth for the purpose of pollution assessment (Elliott *et al.*, 1988, 1989, 1990). During one of these trawling surveys at the Kingston Hudds grounds (about 7km south of East Largo Bay) in August 1989, a number of Crystal Gobies, *Crystallogobius linearis* (von Duben, 1845), were recovered as an incidental by-catch. A sample of these returned to the laboratory for closer examination revealed the presence of parasitic copepod larvae.

The thirteen parasitised fish ranged in size from 37 to 42 mm and each harboured one to six copepod larvae (mean 2.5). The chalimnus stage larvae were all attached with a frontal thread and were between 0.7 and 0.9 mm long. Most of the copepods were attached in the anterior region: on the pectoral and pelvic fins, on the gill cover, or on the lower jaw. A few attached ventrally to the anal fin.

The larvae were examined in more detail by Dr Geoff Boxshall of the British Museum (NH). The presence of well developed subchelate maxillipeds in all the specimens examined suggested that they probably belonged to the family Caligidae. *Caligus elongatus* Nordmann 1832, one of the commonest parasitic copepods in British waters, is already known to infest nearly forty British fish species (Kabata, 1979) including the Sand Goby, *Pomatoschistus minutus* (Pallas, 1770), (see Boxshall, 1974) and the Two-spotted Goby, *Gobiusculus flavescens* (Fabricius, 1779), (syn. *G. ruthensparri*, see Bossanyi & Bull, 1971). Another caligid, *Pseudocaligus brevipedis* (Bassett-Smith, 1896) has been recorded from the Rock Goby, *Gobius paganellus* Linnaeus, 1758.

It is not known whether the caligid larvae on the Crystal Gobies can attain maturity on the same fish. Certainly up to six adult copepods would prove a heavy burden on such a small fish. It is possible that they might migrate to a larger host species at a later stage. This new record is apparently the first of the Crystal Goby acting as a host to parasitic copepods

in UK waters. The material is deposited in the National Museum of Scotland, NMSZ 1997.139.

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A Pink-backed Pelican, *Pelecanus rufescens*, from Kirkcudbrightshire

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On 23rd December 1995 a Mr Murdoch of Ringford, Castle Douglas (grid ref. NX682610) reported to one of us (R.N.C.) that there was a pelican in one of his fields. Although this identification seemed unlikely on zoogeographical grounds, the bird was brought to the Galloway Wildlife Refuge by Mr W. Gilchrist, the local SSPCA officer. This allowed confirmation of its identity as a pelican, most probably a juvenile White, *Pelecanus onocrotalus* or Dalmatian, *P. crispus*, on the basis of its greyish-brown plumage and small body size. The bird was very weak, dehydrated and emaciated, so attempts were made to rehydrate it, but unfortunately, it died overnight.

The bird was sent to the Royal Museum of Scotland where it was identified as an adult female Pink-backed Pelican, *P. rufescens*, in non-breeding plumage. The stomach was blocked by a large fish hook and fishing line, making it impossible for the bird to swallow food. The pelican was prepared as a study skin (register no. NMSZ 1996.51) (Fig. 1).

There had been several sightings of Pink-backed Pelicans throughout Britain during the previous summer and autumn of 1995, including Kent, Essex, Tyne and Wear and the inner Solway Firth near Annan (4-19 August) (Anon., 1995; Rogers *et al.*, 1996). The most recent sighting had been on 18th December 1995 on Loch Ken, Kirkcudbrightshire and this was almost certainly the same bird that was found at Ringford.

The Pink-backed Pelican is found throughout sub-Saharan Africa, but occurs regularly in southern Egypt to 23°N on the Red Sea, and occasionally as a vagrant in the eastern Mediterranean (Israel) (Cramp & Simmons, 1977; Brown *et al.*, 1982; Hollom *et al.*, 1988). It was unlikely that the pelicans observed in Britain during the second half of 1995 were the result of a dramatic colonisation of Europe on a par with that of the Collared Dove, *Streptopelia decaocto*, during the 1950s (Gibbons *et al.*, 1993). The European Endangered Species Programme office in Amsterdam were finally able to reveal their source (F. Rietkerk, pers. comm.). Several Pink-backed Pelicans were confiscated by Dutch Customs and were sent in May 1995 to Birdpark Avifauna, Alphen, The Netherlands. However, while there they regrew their flight feathers earlier than expected and all left Alphen on 30th June 1995. It is rare that the complete history of an unusual escaped exotic bird is known so well. Bird park Avifauna has apologised for this piece of unintentional avifaunal pollution.

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Figure 1. Skin of the Kirkcudbright Pink-backed Pelican.